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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,869	12/21/2005	Adele Charmaine Shaw	9052-211	9299
20792 7590 06/17/2008 MYERS BIGEL, SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER				
FIORITO, JAMES				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
06/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/519,869

**Applicant(s)**

SHAW, ADELE CHARMAINE

**Examiner**

JAMES A. FIORITO

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 8, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kirkham US 4582637.

Kirkham teaches solid fixation of the radioactive-reprocessed product of Magnox fuel from the first generation of British nuclear power stations uranium metal fuel encapsulated in magnesium alloy cans (Column 1, Lines 25-30). The radioactive-reprocessed product is fixated in cement matrices (Column 1, Lines 48-51).

Claims 3, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkham US 4582637 in view of Noakes US 4416810.

Kirkham does not expressly state that the cementitious material is Portland Cement.

Noakes teaches a radioactive material cement fixation process, wherein the cementitious material comprises Portland Cement (Column 1, Lines 41-50).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the method of Kirkham including the use of Portland Cement as the cementitious material in view of the teaching of Noakes. The suggestion or motivation for doing so would have to fixate the radioactive material in a matrix that has good compressive strength, leach, and heat resistance so that it can be transported in the solid state and stored at suitable radioactive solid storage sites (Column 1, Lines 44-49).

Kirkham does not expressly state that the nuclear material is placed in a container.

Noakes teaches that radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers (Column 8 Lines 3-11). The mixtures are cured in the containers up to 60 days.

At the time of invention it would have been obvious to a person of ordinary skill in the art to form the process of Kirkham including radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers and the mixtures are cured in the containers up to 60 days in view of the process of Noakes. The suggestion or motivation for doing so would have been to reduce the possibility of inadvertent mishaps (Column 8 Lines 9-11).

With respect to claims 10-12, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claims 1, 4-6, 8, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hess US 5946639.

Hess teaches that magnesium swarf generated from mechanically stripping-off Magnox fuel cladding from British gas cooled reactor fuel (Column 2 Lines 20-24). The swarf contains uranium and furnace slag (Column 2 Lines 24-26).

Claims 3, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess US 5946639 in view of Noakes US 4416810.

Hess does not expressly state that the encapsulating material is Portland Cement.

Noakes teaches a radioactive material cement fixation process, wherein the cementitious material comprises Portland Cement (Column 1, Lines 41-50).

At the time of invention it would have been obvious to a person of ordinary skill in the art to perform the method of Hess including the use of Portland Cement as the cementitious material in view of the teaching of Noakes. The suggestion or motivation for doing so would have to fixate the radioactive material in a matrix that has good compressive strength, leach, and heat resistance so that it can be transported in the

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solid state and stored at suitable radioactive solid storage sites (Column 1, Lines 44-49).

Hess does not expressly state that the nuclear material is placed in a container.

Noakes teaches that radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers (Column 8 Lines 3-11). The mixtures are cured in the containers up to 60 days.

At the time of invention it would have been obvious to a person of ordinary skill in the art to form the process of Hess including radioactive cement fixation mixtures may be cast into 55-gallon drums or other appropriate size containers and the mixtures are cured in the containers up to 60 days in view of the process of Noakes. The suggestion or motivation for doing so would have been to reduce the possibility of inadvertent mishaps (Column 8 Lines 9-11).

With respect to claims 10-12, it is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

### ***Response to Arguments***

Applicant's arguments filed 3/13/08 have been fully considered but they are not persuasive.

With respect to Applicant's arguments over Kirkham, the intermediate level floc encapsulated by the process would comprise at least some uranium, Magnox, or fuel element debris.

With respect to Applicant's arguments over Hess, the swarf encapsulated by the process would comprise at least some uranium, Magnox, or fuel element debris.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fiorito whose telephone number is (571)272-7426. The examiner can normally be reached on 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James A Fiorito/  
Examiner, Art Unit 1793

/Wayne Langel/  
Primary Examiner, Art Unit 1793